What is claimed is:

1.   A method for assessing toxicity and toxicology of a substance, comprising:

exposing a set of at least two genes to the substance;

5   monitoring the response of each gene in the set of genes to the substance;

analyzing the variance of the response to the substance for each gene using

contrast analysis;

constructing a summary score for each gene in the set of genes;

performing a logistic regression analysis upon the summary scores; and

10   using the results of the logistic regression analysis to provide a predictive model

regarding the toxicity and toxicology of the substance.